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(54) Title: CHIMAERIC PLANT VIRUSES WITH MUCIN PEPTIDES

(a)

Sequence of SBMV Coat Protein Spanning The Potential Insertion Site With Introduced Base Changes and New Restriction Sites: (sequence starts at nt 3955)

M E G G S S K T A V N T G
 ATGGAAGGAGGATCATCTAAGACTGCTGTGAACACTGGG
 ↓ ↓
 GGATCC GTTAAC
 BamHI HpaI

(b)

Series of Sequences to be Inserted Between the Restriction Sites to Insert the MUC1(16) Epitope at Various Locations

G V T S A P D T R P A P G S T A
 GGTGTACTTCTGCTCCTGATACTAGACCTGCTCCTGGTTCTACTGCT
 CCACAATGAAGACGACCACTATGATCTGGACGAGGACCAAGATGACGA

GATCC G	TCTAAGACTGCTGTT AGATTCTGACGACAA
GATCCTCT GAGA	AAGACTGCTGTT TTCTGACGACAA
GATCCTCTAAG GAGATTC	ACTGCTGTT TGACGACAA
GATCCTCTAAGACT GAGATTCTGA	GCTGTT CGACAA
GATCCTCTAAGACTGCT GAGATTCTGACGA	GTT CAA

(57) Abstract: Mucin peptide epitopes are inserted into the coat protein of a plant virus (e.g. a comovirus such as CPMV) having a beta-barrel structure at an immunogenically effective site, such as in a loop connecting beta sheets or at/near the C-terminus. The resulting chimaeric virus particles are extremely immunogenic, giving better results than KLH conjugation and not requiring the addition of exogenous adjuvant. They are effective at mucosal surfaces, particularly when administered intranasally.

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